


Concept: What's the Chance?

Name: _____

NOTE: *You will need one coin for this section*

COMPUTER COMPONENT

Instructions: In  follow the **Content Menu** path:

Probability > What’s the Chance?



Work through all Sub Lessons of the following Lessons **in order**:

- *Probability*
- *Probability Examples*
- *The Probability Scale*
- *Experimental Probability*

Additional Required Materials: *Coins*



As you work through the computer exercises, you will be prompted to make notes in your notebook/math journal.

SUMMARY

1. Demonstrate your knowledge of probability terms by filling the blanks. You may use the word bank below to help you.

The _____ of an event is the same as saying the _____

that a specific _____ will occur.

This may be written as a _____ = number of _____ outcomes

Total number of _____ outcomes

possible	fraction	probability	result
	likelihood	favorable	

OFF COMPUTER EXERCISES

Theoretical Probability is the probability that you think the experiment will produce, before you have even started the experiment.

1. Demonstrate your knowledge of *theoretical probability* by completing the table below.

	List of all Possible Outcomes	Favorable Outcome	Number of Favorable Outcomes	Probability
Toss 1 coin	heads, tails	tails		
Roll 1 Die	1, 2, 3, 4, 5, 6	roll a 2		
Roll 1 Die		roll a 4 or 5		
Toss 2 Coins (order doesn't matter)		1 head, 1 tail		

2. Calculate the **Theoretical Probability** of tossing a head in the experiment of tossing a coin 30 times.

Experimental Probability is the probability that the experiment will actually produce, because you will have conducted the experiment.

Remember: *Your predictions in Theoretical Probability and your results in Experimental Probability will not always be the same.*

3. You will need to work with a partner for this question.

(a) Toss a coin 30 times. Record each result in the tally chart below.

Heads	Tails

(b) Express the total number of heads as a probability.

This is the **Experimental Probability**.

(c) How do your results compare with your prediction in #2?

(d) How do your results compare with those of your classmates?

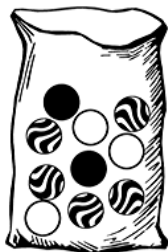
4. What is the probability of spinning the numbers 1 to 5 on Spinner A below?



Spinner A

The Probability of spinning 1 to 5 = _____ or _____ out of _____.

5. What is the probability of picking a white marble out of a bag, which contains 2 black marbles, 3 white marbles, and 5 striped marbles?



Probability of a white marble = _____ or _____ out of _____.

6. Consider all the possibilities a person has when getting dressed to go outside. For a person who has many clothing choices, the combinations are numerous, so we'll keep it simple. "Basic Bill" has the following choices for outdoor apparel:

Footwear	Jacket	Hat
-boots -sneakers	-parka -raincoat -jean jacket	-baseball cap -bucket hat -toque

- (a) *Create a tree diagram to show all the possible clothing combinations.*
How many possible outcomes are there for Bill if he must wear one of each item?

(b) Are all the above clothing combinations equally likely? Explain

(c) What is the probability that Bill wears his jean jacket, baseball cap and sneakers?

7. The following table gives the number of birthdays each month for a class of 48 students.

Jan	Feb	Mar	Apr	Ma y	Jun e	July	Aug	Sept.	Oct	Nov	Dec
4	6	5	6	4	4	2	5	3	2	4	3

(i) What is the probability that a randomly picked student...

(a) has a birthday in May? _____

(b) has a birthday in July? _____

(c) has a birthday in May, June or July? _____

(d) has a birthday during the two summer months? _____

(e) does not have a birthday during the two summer months? _____

(ii) How are the answers to (d) and (e) above related?

8. If a quality control check found that in a sample of 200 batteries, 6 were defective, how many batteries would you expect to be defective in a shipment of 1500 batteries?

9. If Shelby usually sinks 8 out of every 10 baskets she tries, how many baskets would you expect her to get in a game where she tries to sink the ball 50 times?

10. The probability of Pedro getting a strike in 3 games of bowling is $\frac{2}{15}$.
 What is the probability of Pedro **not** getting a strike in 3 games?
